WHAT IS CLAIMED IS:

1.   A method of measuring a position of a surface of an object while relatively scanning the object and a detection unit, said method
5   comprising:

a first measuring step for relatively scanning the detecting unit and a first object in a plurality of directions and for measuring, with respect to each of the plurality of directions, a
10   surface position of the first object;

a calculating step for calculating a corrective amount for correcting a surface position to be provided by the detecting unit, on the basis of the surface positions obtained with
15   respect to the plurality of directions at said first measuring step;

a second measuring step for measuring a surface position of a second object while relatively scanning the detecting unit and the
20   second object in any one of the plurality of directions; and

a correcting step for correcting the surface position of the second object obtained by said second measuring step, on the basis of the
25   corrective amount obtained by said calculating step.

2.   A method according to Claim 1, wherein
the object is a semiconductor wafer.

3.   A method according to Claim 1, wherein
the plurality of directions are two opposite
directions.

4.   A method according to Claim 1, wherein,
at said first measuring step, the surface position
of the first object is measured with regard to a
plurality of sample shot regions on the first
object.

5.   A method according to Claim 1, wherein,
in said calculating step, the corrective amount is
calculated so that the surface positions obtained
at said first measuring step with respect to the
plurality of directions are registered with a
position to be defined by weighted-averaging them.

6.   A method according to Claim 1, wherein,
in said calculating step, data of surface position
to be used for calculation of the corrective
amount is chosen on the basis of a difference in
the surface positions obtained at said first
measuring step with respect to the plurality of
directions.

7. A measuring system for measuring a position of a surface of an object, comprising:

a detecting unit for detecting the position of the surface of the object;

a scanning unit for relatively scanning the object and said detecting unit;

a calculating unit for calculating, on the basis of surface positions of a first object obtained by relatively scanning the first object and said detecting unit in a plurality of directions, a corrective amount for correcting a surface position to be provided by said detecting unit; and

a correcting unit for correcting a surface position of a second object obtained by relatively scanning the second object and said detecting unit in any one of the plurality of directions, on the basis of the corrective amount obtained by said calculating unit.

8. A measuring system according to Claim 7, wherein the object is a semiconductor wafer.

9. A measuring system according to Claim 7, wherein the plurality of directions are two opposite directions.

10. A measuring system according to Claim 7, wherein the surface position of the first object is measured with respect to a plurality of sample
5   shots on the first object.

11. A measuring system according to Claim 7, wherein said calculating unit calculates the corrective amount so that the surface positions of
10 the first objects with respect to the plurality of directions are registered with a position to be defined by weighted-averaging them.

12. A measuring system according to Claim 7,
15 wherein said calculating unit chooses data of surface position to be used for calculation of the corrective amount on the basis of a difference in the surface positions of the first object with respect to the plurality of directions.
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13. An exposure apparatus for exposing an object to a pattern, comprising:

a measuring system as recited in Claim 7, for measuring a surface position of the object;
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exposure means for exposing the object with the pattern.

14.   An apparatus according to Claim 13, wherein said exposure apparatus is a scanning exposure apparatus.

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15.   A device manufacturing method, including a step of exposing an object to a pattern by use of an exposure apparatus as recited in Claim 13.

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